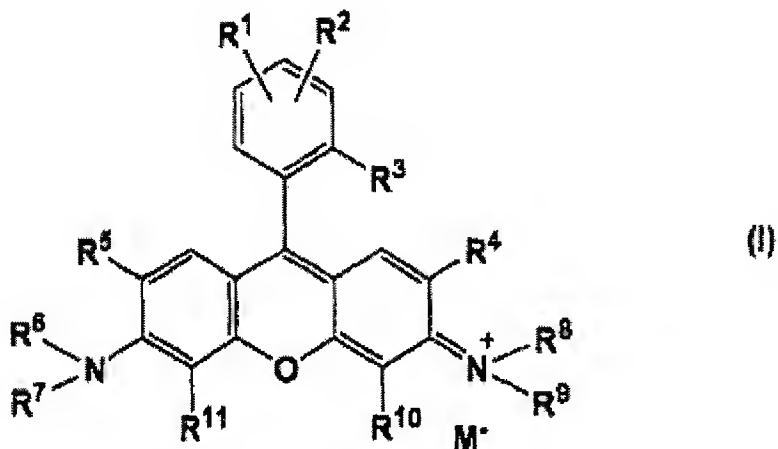


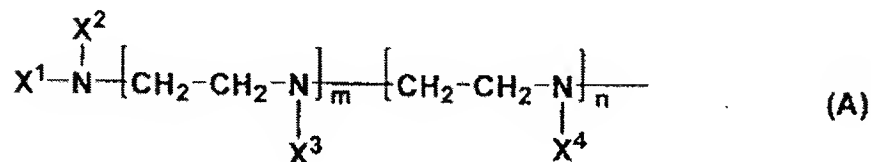
## AMENDMENTS TO THE CLAIMS

Listing of Claims:

1. (Currently Amended) A fluorescent probe which is represented by the following formula (I):



wherein  $R^1$  and  $R^2$  each independently represents a hydrogen atom, or  $R^1$  represents a substituent for trapping a proton, a metal ion, or an active oxygen species, provided that  $R^1$  and  $R^2$  do not simultaneously represent hydrogen atoms, or  $R^1$  and  $R^2$  may combine to each other to form a ring structure for trapping a proton, a metal ion, or an active oxygen species, represented by the following formula (A):



wherein  $X^1$  and  $X^2$  each independently represents a 2-pyridylmethyl group,  $X^3$  and  $X^4$  each independently represents a hydrogen atom, an alkyl group, a 2-pyridylmethyl group, or a protective group of amino group, and m and n each independently represents 0 or 1;  $R^3$  represents a monovalent substituent other than a hydrogen atom, a carboxy group, or a sulfo

group;  $R^4$  and  $R^5$  each independently represent a hydrogen atom, a halogen atom, or an alkyl group which may have a substituent;  $R^6$ ,  $R^7$ ,  $R^8$ , and  $R^9$  each independently represent an alkyl group which may have a substituent;  $R^{10}$  and  $R^{11}$  each independently represent a hydrogen atom, a halogen atom, or an alkyl group which may have a substituent; in one or more combinations selected from combinations of  $R^4$  and  $R^8$ ,  $R^9$  and  $R^{10}$ ,  $R^5$  and  $R^6$ , or  $R^7$  and  $R^{11}$ , two of the groups included in each combination, wherein these groups are alkyl groups which may have a substituent, may combine to each other to form a 5- or 6-membered ring; and  $M^+$  represents a counter ion; provided that a combination of  $R^1$ ,  $R^2$ , and  $R^3$

(1) imparts a substantially high electron density to the benzene ring to which they are bond so that the compound represented by the formula (I) ~~can be~~ is a substantially non-fluorescent compound before trapping a ~~proton~~, a metal ion, ~~or an active oxygen species~~, and

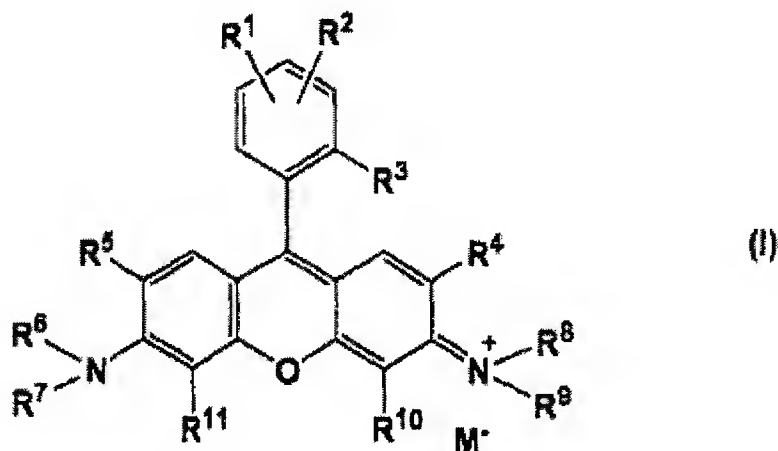
(2) substantially reduces electron density of the benzene ring to which they are bond so that the compound derived from the compound represented by the formula (I) after trapping a ~~proton~~, a metal ion, ~~or an active oxygen species~~ can be is a highly fluorescent compound after the trapping.

2. (Currently Amended) The fluorescent probe according to claim 1, wherein the benzene ring on which  $R^1$ ,  $R^2$ , and  $R^3$  substitute has an oxidation potential less than 1.20 V before trapping a ~~proton~~, a metal ion, ~~or an active oxygen species~~, and an oxidation potential not less than 1.40 V after trapping a ~~proton~~, a metal ion, ~~or an active oxygen species~~.

3. (Previously Presented) The fluorescent probe according to claim 1, wherein  $R^3$  is a lower alkyl group, or a lower alkoxy group.

4. (Currently Amended) The fluorescent probe according to claim 1, wherein the metal ion is ~~an alkali metal ion, calcium ion, magnesium ion, or zinc ion.~~

5. (Currently Amended) A fluorescent probe which is represented by the following formula (I):



wherein R<sup>1</sup> and R<sup>2</sup> each independently represent a hydrogen atom, or a substituent for trapping an active oxygen species, provided that R<sup>1</sup> and R<sup>2</sup> do not simultaneously represent hydrogen atoms, or R<sup>1</sup> and R<sup>2</sup> may combine to each other to form a ring structure for trapping an active oxygen species; R<sup>3</sup> represents a monovalent substituent other than a hydrogen atom, a carboxy group, or a sulfo group; R<sup>4</sup> and R<sup>5</sup> each independently represent a hydrogen atom, a halogen atom, or an alkyl group which may have a substituent; R<sup>6</sup>, R<sup>7</sup>, R<sup>8</sup>, and R<sup>9</sup> each independently represent an alkyl group which may have a substituent; R<sup>10</sup> and R<sup>11</sup> each independently represent a hydrogen atom, a halogen atom, or an alkyl group which may have a substituent; in one or more combinations selected from combinations of R<sup>4</sup> and R<sup>8</sup>, R<sup>9</sup> and R<sup>10</sup>, R<sup>5</sup> and R<sup>6</sup>, or R<sup>7</sup> and R<sup>11</sup>, two of the groups included in each combination, wherein these groups are alkyl groups

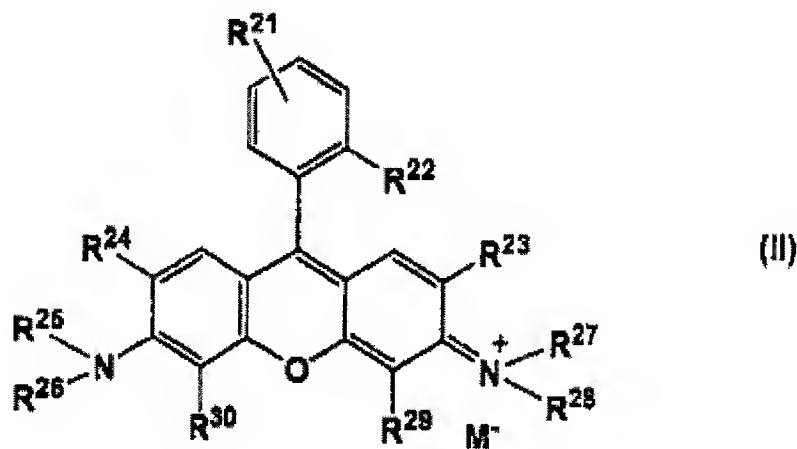
which may have a substituent, may combine to each other to form a 5- or 6-membered ring; and

M<sup>-</sup> represents a counter ion; provided that the combination of R<sup>1</sup>, R<sup>2</sup>, and R<sup>3</sup>

(1) imparts a substantially high electron density to the benzene ring to which they are bond so that the compound represented by the formula (I) is a substantially non-fluorescent compound before trapping an active oxygen species, and

(2) substantially reduces electron density of the benzene ring to which they are bond so that the compound derived from the compound represented by the formula (I) after trapping an active oxygen species is a highly fluorescent compound after the trapping; and The fluorescent probe according to claim 1, wherein the active oxygen species is selected from nitric oxide, hydroxyl radical, singlet oxygen, or superoxide.

6. (Previously Presented) A compound represented by the following formula (II):

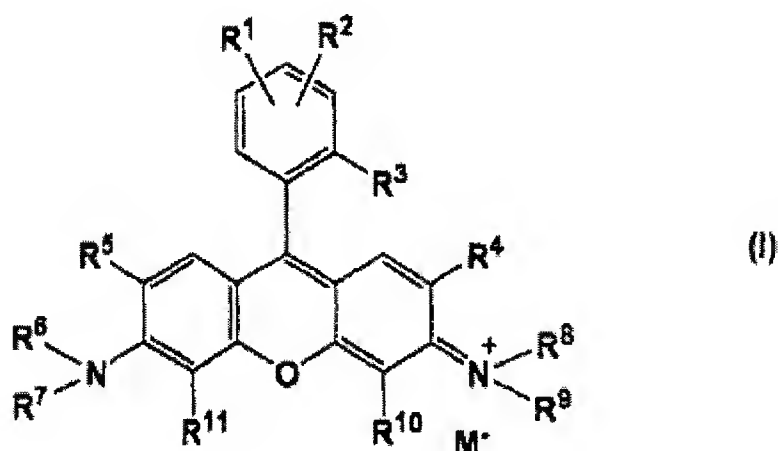


wherein R<sup>21</sup> represents a hydrogen atom, an alkyl group, or an alkoxy group; R<sup>22</sup> represents an alkyl group, or an alkoxy group; R<sup>23</sup> and R<sup>24</sup> each independently represent a hydrogen atom, a halogen atom, or an alkyl group which may have a substituent; R<sup>25</sup>, R<sup>26</sup>, R<sup>27</sup>, and R<sup>28</sup> each independently represent an alkyl group which may have a substituent; R<sup>29</sup> and R<sup>30</sup> each independently represent a hydrogen atom, a halogen atom, or an alkyl group which may have a

substituent; in one or more combinations selected from combinations of  $R^{23}$  and  $R^{27}$ ,  $R^{28}$  and  $R^{29}$ ,  $R^{24}$  and  $R^{25}$ , and  $R^{26}$  and  $R^{30}$ , two of the groups included in each combination, wherein these groups are alkyl groups which may have a substituent, may combine to each other to form a 5- or 6-membered ring; and  $M^+$  represents a counter ion.

7. (Previously Presented) The fluorescent probe according to claim 2, wherein  $R^3$  is a lower alkyl group, or a lower alkoxy group.

8. (Currently Amended) A fluorescent probe which is represented by the following formula (I):



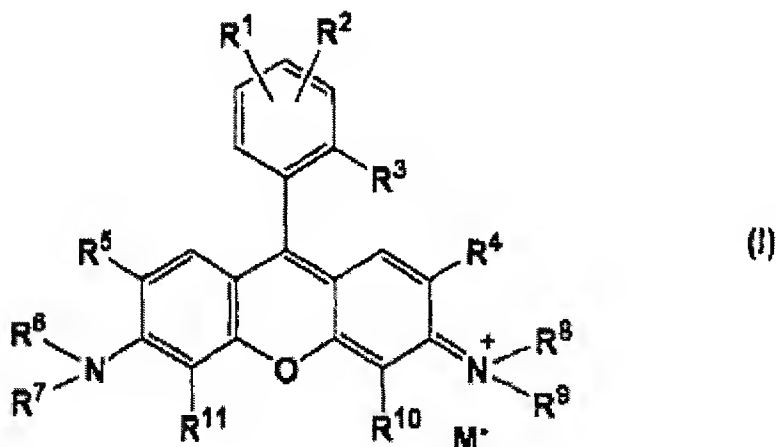
wherein  $R^1$  and  $R^2$  each independently represent a hydrogen atom, or a substituent for trapping a metal ion provided that  $R^1$  and  $R^2$  do not simultaneously represent hydrogen atoms, or  $R^1$  and  $R^2$  may combine to each other to form a ring structure for trapping a metal ion;  $R^3$  represents a monovalent substituent other than a hydrogen atom, a carboxy group, or a sulfo group;  $R^4$  and  $R^5$  each independently represent a hydrogen atom, a halogen atom, or an alkyl group which may have a substituent;  $R^6$ ,  $R^7$ ,  $R^8$ , and  $R^9$  each independently represent an alkyl group which may have a substituent;  $R^{10}$  and  $R^{11}$  each independently represent a hydrogen atom, a halogen atom,

or an alkyl group which may have a substituent; in one or more combinations selected from combinations of  $R^4$  and  $R^8$ ,  $R^9$  and  $R^{10}$ ,  $R^5$  and  $R^6$ , or  $R^7$  and  $R^{11}$ , two of the groups included in each combination, wherein these groups are alkyl groups which may have a substituent, may combine to each other to form a 5- or 6-membered ring; and  $M^-$  represents a counter ion; provided that the combination of  $R^1$ ,  $R^2$ , and  $R^3$

(1) imparts a substantially high electron density to the benzene ring to which they are bond so that the compound represented by the formula (I) is a substantially non-fluorescent compound before trapping a metal ion, and

(2) substantially reduces electron density of the benzene ring to which they are bond so that the compound derived from the compound represented by the formula (I) after trapping a metal ion is a highly fluorescent compound after the trapping; The fluorescent probe according to claim 2, wherein the benzene ring on which  $R^1$ ,  $R^2$ , and  $R^3$  substitute has an oxidation potential less than 1.20 V before trapping a metal ion, and an oxidation potential not less than 1.40 V after trapping a metal ion; and wherein the metal ion is an alkali metal ion, calcium ion, or magnesium ion, ~~or~~ zinc ion.

9. (Currently Amended) A fluorescent probe which is represented by the following formula (I):



wherein  $R^1$  and  $R^2$  each independently represent a hydrogen atom, or a substituent for trapping a metal ion, provided that  $R^1$  and  $R^2$  do not simultaneously represent hydrogen atoms, or  $R^1$  and  $R^2$  may combine to each other to form a ring structure for trapping a metal ion;  $R^3$  represents a lower alkyl group, or a lower alkoxy group;  $R^4$  and  $R^5$  each independently represent a hydrogen atom, a halogen atom, or an alkyl group which may have a substituent;  $R^6$ ,  $R^7$ ,  $R^8$ , and  $R^9$  each independently represent an alkyl group which may have a substituent;  $R^{10}$  and  $R^{11}$  each independently represent a hydrogen atom, a halogen atom, or an alkyl group which may have a substituent; in one or more combinations selected from combinations of  $R^4$  and  $R^8$ ,  $R^9$  and  $R^{10}$ ,  $R^5$  and  $R^6$ , or  $R^7$  and  $R^{11}$ , two of the groups included in each combination, wherein these groups are alkyl groups which may have a substituent, may combine to each other to form a 5- or 6-membered ring; and  $M^+$  represents a counter ion; provided that the combination of  $R^1$ ,  $R^2$ , and  $R^3$  (1) imparts a substantially high electron density to the benzene ring to which they are bond so that the compound represented by the formula (I) is a substantially non-fluorescent compound

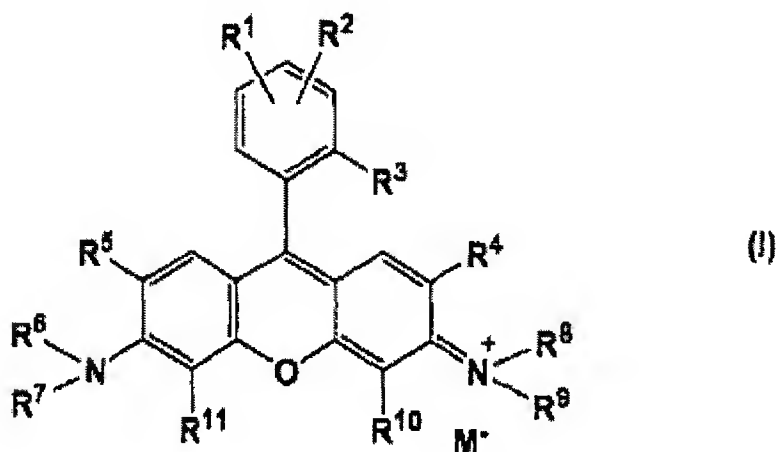
before trapping a metal ion, and

(2) substantially reduces electron density of the benzene ring to which they are bond so that the compound derived from the compound represented by the formula (I) after trapping a metal ion is a highly fluorescent compound after the trapping; and ~~The fluorescent probe according to claim 3,~~ wherein the metal ion is an alkali metal ion, calcium ion, or magnesium ion, ~~or zinc ion.~~

10. (Currently Amended) The fluorescent probe according to claim-2 5, wherein the benzene ring on which R<sup>1</sup>, R<sup>2</sup>, and R<sup>3</sup> substitute has an oxidation potential less than 1.20 V before trapping an active oxygen species, and an oxidation potential not less than 1.40 V after trapping an active oxygen species ~~wherein the active oxygen species is selected from nitric oxide, hydroxyl radical, singlet oxygen, or superoxide.~~

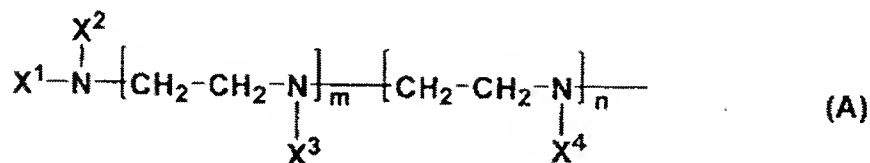
11. (Currently Amended) The fluorescent probe according to claim-3 5, wherein R<sup>3</sup> is a lower alkyl group, or a lower alkoxy group ~~wherein the active oxygen species is selected from nitric oxide, hydroxyl radical, singlet oxygen, or superoxide.~~

12. (New) A fluorescent probe which is represented by the following formula (I):



wherein R<sup>1</sup> represents a hydrogen atom, and R<sup>2</sup> represents a substituent for trapping a metal ion represented by the following formula (A):





wherein  $\text{X}^1$  and  $\text{X}^2$  each independently represents a 2-pyridylmethyl group,  $\text{X}^3$  and  $\text{X}^4$  each independently represents a hydrogen atom, an alkyl group, a 2-pyridylmethyl group, or a protective group of amino group, and  $m$  and  $n$  each independently represents 0 or 1;  $\text{R}^3$  represents a monovalent substituent other than a hydrogen atom, a carboxy group, or a sulfo group;  $\text{R}^4$  and  $\text{R}^5$  each independently represent a hydrogen atom, a halogen atom, or an alkyl group which may have a substituent;  $\text{R}^6$ ,  $\text{R}^7$ ,  $\text{R}^8$ , and  $\text{R}^9$  each independently represent an alkyl group which may have a substituent;  $\text{R}^{10}$  and  $\text{R}^{11}$  each independently represent a hydrogen atom, a halogen atom, or an alkyl group which may have a substituent; in one or more combinations selected from combinations of  $\text{R}^4$  and  $\text{R}^8$ ,  $\text{R}^9$  and  $\text{R}^{10}$ ,  $\text{R}^5$  and  $\text{R}^6$ , or  $\text{R}^7$  and  $\text{R}^{11}$ , two of the groups included in each combination, wherein these groups are alkyl groups which may have a substituent, may combine to each other to form a 5- or 6-membered ring; and  $\text{M}^-$  represents a counter ion; provided that a combination of  $\text{R}^1$ ,  $\text{R}^2$ , and  $\text{R}^3$  are chosen so that the compound represented by the formula (I) is a substantially non-fluorescent compound before trapping a metal ion, and is a highly fluorescent compound after the trapping.

13. (New) The fluorescent probe according to claim 1 wherein  $m$  is 0, and  $n$  is 1.

14. (New) The fluorescent probe according to claim 13 wherein  $\text{X}^4$  is a hydrogen atom.